

FUNCTIONAL INSERT FOR THE NECK OF A RECEPTACLE, TYPICALLY  
A BOTTLE, AND CLOSING CAP COMPRISING THE SAID INSERT

Field of the invention

The invention relates to functional inserts to be placed in receptacle necks in order to make the said receptacle perform a specific function, namely typically a pouring spout function or a non-refilling function.

- 5       The invention also relates to closing caps in which this type of insert is fitted.

State of the art

- 10       Many functional inserts to be placed in receptacle necks are already known, typically to perform a pouring spout function, or a non-refilling function, or possibly other functions.

- 15       Closing caps provided with sealing inserts are also known, as are these similar caps that also comprise functional inserts by means of a reversible assembly, so that the functional insert can be placed in the bottle neck at the same time as the closing cap is placed on the neck.

- 20       Thus, French application No. 99 14016 in the name of the applicant divulges a closing cap comprising a functional insert that forms a pouring spout.

Similarly, French application No. 00 00397 in the name of the applicant divulges a closing cap comprising a functional insert that forms a non-refilling function.

Documents DE 36 18 558 A1 and EP 0 185 245 A2  
divulge inserts that can be glued to a neck.

Problems that arise

... in the said neck, the said body supporting at least one flexible rib on its outside surface designed to form a sealed junction with the said neck when the said functional insert is inserted into the said neck, and a  
5 functional element, and is characterised in that:

a) the said functional insert comprises an adhesive supported on the said rib, typically on its upper surface, and / or on the said outer surface of the said body, the said adhesive being chosen to bond to the said  
10 neck,

b) the said adhesive is a typically permanent adhesive chosen with a consistency or viscosity such that it will only creep under a stress that compresses the said adhesive between the said rib and the said body  
15 when, with the said functional insert being inserted into the said neck, the said rib retracts and its contents or quantity are chosen such that the said adhesive comes into contact with the said neck so as to solidarise the said body to the said neck at an adhesive contact area  
20 and to prevent axial displacement of the said functional insert in the upwards direction under axial stress.

The invention is based on the combination of several means:

- firstly, use of an adhesive with a rheology chosen  
25 so that there is no creep in the absence of mechanical stress, and such that there is no untimely flow of the adhesive which would be unacceptable in all cases;

- secondly, on the position of this adhesive, typically on a rib or at the bottom of the annular cavity formed between two ribs and the outside surface of the body of the insert, such that it is not accessible when the inserts are stored or are manipulated,
- furthermore, on the lack of contact between the adhesive and the contents of the bottle: since the lower rib on which this adhesive is located is a sealing rib or may be a sealing rib, the adhesive will not come into contact with the contents of the bottle,
- finally, on use of this adhesive in idle time; the action of positioning the insert in the neck (in the normal manner) triggers bending of the ribs upwards and consequently the necessary creep of the adhesive towards the neck.